UvA Master Evening November 10, 2016
— Computer Science —

A Joint Degree offered by:

VU UNIVERSITY AMSTERDAM

UNIVERSITY OF AMSTERDAM
Your hosts today:

- **Chris Ouwehand**
  Master student Computer Science (VU)

- **Alban Ponse**
  Associate prof. (UHD) Computer Science (UvA)
  UvA program coordinator

Our programme today:

- The new **Joint-Degree Master in Computer Science** in Amsterdam
Who is us?

\[ \text{VU} + \text{University of Amsterdam} = \text{Two top universities for the price of one!!} \]
UvA and VU joint Master of Science Programme

Disadvantage:

▶ Two teaching locations: Science Park and Zuidas

Advantages:

▶ A Joint Degree: One diploma issued by both universities
▶ Larger selection of courses
▶ More research opportunities for graduation projects
▶ More world-class researchers at your finger tips
▶ More resources
▶ More of everything . . .
MSc Computer Science UvA+VU

Fact Sheet:

- 2 years
- 120 ECTS credits
- Taught in English
- Internationally visible
- International student population
- Leading to a top position in industry (in NL and abroad)
- Leading to a position in industrial research
- Leading to a career in academia
Curriculum Structure

Four pillars:

- Master Core (54 EC)
- Choice of 6 tracks (30 EC):
  - Big Data Engineering
  - Computer Systems Security
  - Foundations of Computing and Concurrency
  - Internet and Web Technology
  - Parallel Computing Systems
  - Software Engineering and Green IT
- Constrained Choice packages (6–18 EC)
- Free Choice courses (18–30 EC)
Master Core (54 EC)

- **Distributed Systems** (6 EC)
  laying the foundation of today’s IT systems where everything is connected with everything else

- *one* of the following courses:
  - **History of Digital Cultures** (6EC)
    placing CS into its societal and historical context
  - **ICT 4 Development** (6EC)
    on designing and deploying ICT projects in developing areas
  - **E-Commerce Law** (6EC)
    understanding of legal issues when doing business online

- **Literature Study and Seminar** (6 EC)
  investigating existing solutions to a research question and presenting findings within one of the research groups

- **Graduation Project** (36 EC)
  independently executing a project, turning everything learned so-far into a master piece
Track: Big Data Engineering

Track theme:
- The technology for transforming data into insights

Track core:
- High-performance Computing and Big Data
- Web Data Processing Systems
- Large-Scale Data Engineering
- Information Visualization
- Data Mining Techniques

Track coordinator:
- Dr Adam Belloum (aszbelloum.wixsite.com/aszbelloum)
Track: Computer Systems Security

Track theme:
▶ Security of computer systems, malware analysis and defense

Track core:
▶ Systems Security
▶ Binary and Malware Analysis
▶ Software Exploitation
▶ Cybercrime and Forensics
▶ Kernel Programming

Track coordinator:
▶ Prof.dr Herbert Bos
  (www.vusec.net/people/herbert-bos/)
Track: Foundations of Computing and Concurrency

**Track theme:**
- Formal methods, especially in concurrent programming

**Track core:**
- Logical Verification
- Advanced Logic
- Distributed Algorithms
- Term Rewriting Systems
- Protocol Validation

**Track coordinator:**
- Dr Femke van Raamsdonk ([www.cs.vu.nl/~femke/](http://www.cs.vu.nl/~femke/))
Track: Internet and Web Technology

Track theme:
- Software technology for web, internet, and cloud computing

Track core:
- Internet Programming
- Service Oriented Design
- Distributed Algorithms
- Performance of Networked Systems
- Web Services and Cloud-based Systems

Track coordinator:
- Dr Spyros Voulgaris (acropolis.cs.vu.nl/~spyros/www/)
Track: Parallel Computing Systems

Track theme:

- Parallel computing is everywhere: from mobile phones to supercomputers

Track core:

- Parallel System Architectures
- Programming Large-scale Parallel Systems
- Parallel Programming Practical
- Programming Multi-core and Many-core Systems
- Performance Engineering

Track coordinator:

- Dr Clemens Grelck (staff.science.uva.nl/c.u.grelck/)
Track: Software Engineering and Green IT

Track theme:

▶ Systematic and quantifiable approaches to the development, execution and maintenance of software

Track core:

▶ Service Oriented Design
▶ Software Asset Management
▶ Green Lab
▶ Software Architecture
▶ Software Testing

Track coordinator:

▶ Prof.dr Patricia Lago
  (www.s2group.cs.vu.nl/people/patricia-lago/)
Looking Beyond your Track

Ensuring the breadth of each individual study program

Constrained choice modules (6–18 EC):

- One course on foundations
- One course on software engineering
- One course on programming
- One course on mathematics

- Each to be chosen from a predefined set of choices
- Partially covered by the chosen track’s core
Free Choice Courses

Free Choice (18–30 EC):

- Courses from other tracks (pre-approved)
- Other courses from constrained choice packages (pre-approved)
- Any course from your track’s pre-approved list of suggestions
- Any other course (Master-level) from Computer Science, Computational Science, Logic, Artificial Intelligence, or Bioinformatics (to be approved by exam committee)
YOU decide about much of the study programme

Want to go to industry?

▶ Do your graduation project as an internship with a company

Want to go for a PhD / more ambitious job?

▶ Combine
  ▶ literature study
  ▶ individual project
  ▶ graduation project

for a more ambitious scientific research project of up to 48 EC or almost a year of work
Admission to the Programme

For university students

▶ BSc degree in Computer Science or Informatica (or closely related subject)
▶ Other degrees: individual assessment

For HBO students

▶ BSc degree in Informatica (or closely related subject)
▶ Individual assessment of strengths and deficits
  ▶ Additional courses from our BSc/MSc programmes as necessary
Why you should join the VU/UvA Master in Computer Science

10 good reasons:

▶ VU and UvA are among the top universities in Europe
▶ Learn from world-renowned scientists
▶ Small student groups
▶ Wide choice of courses
▶ Excellent teacher/student ratio
▶ Become part of a research group for your graduation project
▶ Modern state-of-the-art facilities
▶ International environment at home
▶ Excellent job market for graduates (academia or industry)
▶ Get two universities for the price of one
The End — links and more information

▶ www.vu.nl/ma-computerscience

Programme director:
▶ Prof.dr Wan Fokkink (www.cs.vu.nl/~wanf/)

These slides:
▶ staff.fnwi.uva.nl/a.ponse/mastervoorlichting2016.pdf
(or fnwi → science)

UvA contacts:
▶ For BDE: dr Adam Belloum
(aszbelloum.wixsite.com/aszbelloum)
▶ For PCS: dr Clemens Grelck
(staff.science.uva.nl/c.u.grelck/)
▶ General and for FCC: dr Alban Ponse
(staff.science.uva.nl/a.ponse/)